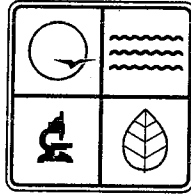


STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION



PERMIT BOOK

PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: **032006-001** Project Number: 2005-11-042
Owner: Ash Grove Aggregates 217-0042
Owner's Address: P. O. Box 70, Butler, MO 64730
Installation Name: Ash Grove Aggregates, Inc. - Rich Hill - Seagraves Quarry
Installation Address: 2.75 Miles West of Highway 71
Location Information: Rich Hill, MO 64730
Vernon County, S35, T38N, R32W

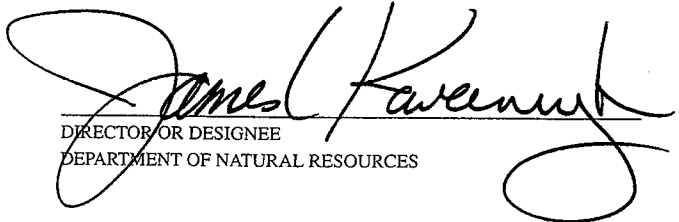
Application for Authority to Construct was made for:

The installation of a new stationary rock crushing plant. The rock crushing plant is a Generic Plant. Rock is processed through no more than 5 crusher(s), 5 screen(s), 50 conveyor(s), and 10 bin(s). The rock crushing plant has a maximum hourly design rate (MHDR) of 600 tons per hour (tph). The primary crusher has a capacity of 600 tph. Best Management Practices will be used to control fugitive emissions from storage piles and haul roads. This review was conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

- ☐ Standard Conditions (on reverse) are applicable to this permit.
- ☒ Standard Conditions (on reverse) and Special Conditions (listed as attachments starting on page 2) are applicable to this permit.

MAR - 2 2006

EFFECTIVE DATE


DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available not more than 60 days but at least 30 days in advance of this date. Also, you must notify the Department of Natural Resources Regional Office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed Special Conditions as provided in RSMo 643.075. If you choose to appeal, the Air Pollution Control Program must receive your written declaration within 30 days of receipt of this permit.

If you choose not to appeal, this certificate, the project review, your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant source(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Department of Natural Resources has established the Outreach and Assistance Center to help in completing future applications or fielding complaints about the permitting process. You are invited to contact them at 1-800-361-4827 or (573) 526-6627, or in writing addressed to Outreach and Assistance Center, P.O. Box 176, Jefferson City, MO 65102-0176.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention Construction Permit Unit.

Page No.	2
Permit No.	
Project No.	2005-11-042

GENERAL SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075); by the Missouri Rules listed in Title 10, Division 10 of the Codes of State Regulations (specifically 10 CSR 10-6.060); by 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority"; by 10 CSR 10-6.010 "Ambient Air Quality Standards" and 10 CSR 10-6.060 subsections (5)(D) and (6)(A); and by control measures requested by the applicant, in their permit application, to reduce the amount of air pollutants being emitted, in accordance with 10 CSR 10-6.060 paragraph (6)(E)3. Furthermore, one or more of the Subparts of 40 CFR Part 60, New Source Performance Standards (NSPS), applies to this installation.

1. Generic Plant Designation and Maximum Combined Hourly Design Rate
Ash Grove Aggregates, Inc. – Rich Hill – Seagraves Quarry's stationary rock crushing plant (217-0042) has been designated to be a Generic Plant Operation. The combined Maximum Hourly Design Rate (MHDR) for the primary unit(s) and each of the following generic equipment types shall not exceed the maximum installation capacities listed below at any time the installation is in operation.

Equipment Type	Maximum Combined Hourly Design Rate	Maximum Number of Units
Primary Unit(s) (Primary Crusher)	600 tons per hour	1
Feeder/Grizzly	600 tons per hour	1
Crusher(s) including primary crusher	2,000 tons per hour	5
Conveyor(s), Stacker(s)	10,000 tons per hour	50
Screen(s)	1,500 tons per hour	5
Storage Bin(s)	600	10

2. Generic Plant Equipment Identification Requirement
 - A. Within fifteen (15) days of actual startup, Ash Grove Aggregates, Inc. – Rich Hill - Seagraves Quarry shall submit to the Air Pollution Control Program's (APCP) Permitting Section, and the Kansas City Regional Office, the following information for the generic plant (217-0042):
 - 1.) A Master List of all equipment that will be permitted for use with the generic plant (217-0042). This master list shall include the following information for each piece of equipment. The manufacturer's name, the model number, the serial number, the actual MHDR, the date of manufacture, any company-assigned equipment number, and any other additional information such as sizes and/or dimensions that is necessary to uniquely identify all of the equipment.
 - 2.) A list of the core equipment that will always be utilized with the generic plant (217-0042). The core equipment associated with the generic plant shall include at least one (1) primary unit. Core equipment items are rate-controlling components of the process flow (e.g., primary crusher and/or primary screen). The maximum hourly design rate of the generic plant is defined to be the sum of the MHDR(s) of the core equipment. Any arrangement of the generic plant's equipment must be such that the core equipment is not bypassed in the process flow.
 - 3.) A determination on the applicability of 40 CFR Part 60, Subpart "OOO", *Standards of Performance for Nonmetallic Mineral Processing Plants*, for each piece of equipment. Ash Grove Aggregates, Inc. – Rich Hill - Seagraves Quarry shall indicate whether or not each piece of equipment is subject to Subpart "OOO" and provide the justification for this applicability determination.
 - 4.) Ash Grove Aggregates, Inc. – Rich Hill - Seagraves Quarry shall submit notification to the Air Pollution Control Program (APCP) and the Regional Office if the core equipment is changed and/or if new equipment is added to the supplemental equipment list.
 - B. To assure that each piece of equipment is properly identified as being a part of this generic stationary rock crushing plant (217-0042), Ash Grove Aggregates, Inc. – Rich Hill - Seagraves Quarry shall provide and maintain suitable, easily read permanent markings on each component of the plant. These markings shall be the equipment's serial number or a company assigned identification number that uniquely identifies the individual component. These identification numbers must be submitted to the Air Pollution Control Program (APCP) and the Regional Office no later than fifteen (15) days after start-up of the generic plant.

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Permit No.	
Project No.	2005-11-042

GENERAL SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

- C. Ash Grove Aggregates, Inc. – Rich Hill - Seagraves Quarry shall at all times maintain a list of the specific equipment currently being utilized with the generic stationary rock crushing plant (217-0042). The installation shall immediately make this list of currently used equipment available to any Missouri Department of Natural Resources' personnel upon request.
- 3. Record Keeping Requirement
The operator(s) shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request.
- 4. Reporting Requirement
The operator(s) shall report to the Air Pollution Control Program (APCP) Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after any exceedances of the limitations imposed by this permit.

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Permit No.	
Project No.	2005-11-042

SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

Site ID No.: 217-0042

Site Name: Ash Grove Aggregates, Inc. – Rich Hill - Seagraves Quarry

Site Address: 2.75 Miles West of Highway 71, Rich Hill, MO 64730

Site County: Vernon County, S35, T38N, R32W

1. **Best Management Practices**
Ash Grove Aggregates, Inc. – Rich Hill - Seagraves Quarry shall control fugitive emissions from all of the haul roads and stockpiles at this site by performing *Best Management Practices*, which include the usage of paving, chemical dust suppressants, or documented watering. These practices are defined in Attachment AA.
2. **National Ambient Air Quality Standards (NAAQS) Limitation for Particulate Matter Less Than Ten Microns in Diameter (PM₁₀)**
 - A. The operator(s) for Ash Grove Aggregates, Inc. – Rich Hill - Seagraves Quarry's rock crushing plant (217-0042) shall ensure, while operating at this site, that the ambient impact of PM₁₀ at or beyond the nearest property boundary does not exceed 150 µg/m³ in any 24-hour period, in accordance with the Federal NAAQS requirements (40 CFR 50.6).
 - B. The total daily ambient impact of PM₁₀ at this site shall include the combined impact of the rock crushing plant and any ambient background concentration from installations or equipment located on the same site as the rock crushing plant.
 - C. To demonstrate compliance, the operator(s) shall maintain a daily record of material processed. Attachment A (single operation) and, Attachment B (multi operations) *Daily Ambient PM₁₀ Impact Tracking Record*, or other equivalent form(s), will be used for this purpose.
3. **Moisture Content Testing Requirement for Inherent Moisture Content**
 - A. The inherent moisture content of the rock will reduce particulate emissions. Ash Grove Aggregates, Inc. – Rich Hill - Seagraves Quarry claimed the inherent moisture content of the processed rock to be greater than or equal to 1.5 wt%, which shall be verified by testing.
 - B. Testing shall be conducted according to approved methods, such as those prescribed by the *American Society for Testing Materials (ASTM D-2216 or C-566)*, EPA AP-42 Appendix C.2, or other method(s) approved by the Director. The first test shall be no later than 45 days after startup. Testing shall be conducted for three consecutive years during the months of June through September, while the rock crushing plant is active at this site. If the test results have been consistently greater than 1.5 wt% and there is no reported emission exceedances from the plant, then no further testing is required and this site shall be deemed to have met this condition on all subsequent permits. Verification of the results will be performed during a routine inspection. If the test results have been less than 1.5 wt% and/or there is substantial change in the emissions from the plant, then Ash Grove Aggregates, Inc. – Rich Hill - Seagraves Quarry shall apply for a new construction permit to account for the revised information or operate a wet suppression system capable of maintaining visible emissions standards for each unit within 30 days.
 - C. The operator shall obtain test samples before processing (before entering the Primary Crusher, EP04) and after processing (prior to load-in to bins and/or storage piles). During the sample processing run only, any spray devices shall be turned off during the processing from which test samples are obtained. The written analytical report shall include the raw data and moisture content (wt.%) of each sample, the test date, and the original signature of the individual performing the test. Within 30 days of completion of the required tests, the report shall be submitted to the Enforcement section of the Air Pollution Control Program, and a copy shall be sent to the Regional Office.
 - D. If the inherent moisture content result of the first test is less than 1.5 wt.%, a second test must be performed within 30 days. If the result of the second test is less than 1.5 wt.%, Ash Grove Aggregates, Inc. - Rich Hill - Seagraves Quarry shall apply for a new construction permit to account for the revised information or install wet suppression system on all units.

Page No.	5
Permit No.	
Project No.	2005-11-042

SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

4. Performance Testing for New Source Performance Standards (NSPS)
 - A. Ash Grove Aggregates, Inc. – Rich Hill - Seagraves Quarry shall submit the enclosed testing plan to the Enforcement section of the Air Pollution Control Program for all equipment applicable to NSPS Subpart “OOO”. Ash Grove Aggregates, Inc. – Rich Hill - Seagraves Quarry shall contact the Enforcement section to obtain all requirements for testing, and the plan must be submitted to the Enforcement section at least 30 days prior to the proposed test date.
 - B. Testing must be performed no later than 60 days after achieving the maximum production rate of the process, and in any case no later than 180 days after initial startup. The performance test results shall be submitted to the Enforcement section no later than 30 days after completion of any required testing.
5. Prohibition Against Concurrent Operations Without Further APCP Review
 The rock crushing plant (217-0042) is prohibited from operating whenever any other plant(s) are located at this site, except for one of the following portable plant(s):
 - A. Hot mix asphalt, concrete batch, or rock-crushing plant that has been limited in its permit to an ambient impact less than 30 µg/m³ of PM₁₀.
6. Restriction on Process Configuration of Primary Emission Point(s)
 The maximum hourly design rate of the plant is equal to the sum of the design rate(s) of the primary emission point(s). Ash Grove Aggregates, Inc. – Rich Hill - Seagraves Quarry has designated the following unit(s) as the primary emission point(s) of the rock crushing plant: primary crusher (EP04). Bypassing the primary emission point(s) for processing is prohibited.
7. Restriction on Minimum Distance to Nearest Property Boundary
 The primary emission point of the rock crushing plant, which is the primary crusher (EP04), shall be located at least 300 feet from the nearest property boundary whenever it is operating at this site.
8. Record Keeping Requirement
 The operator(s) shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources’ personnel upon request.
9. Reporting Requirement
 The operator(s) shall report to the Air Pollution Control Program (APCP) Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after any exceedances of the limitations imposed by this permit.

TECHNICAL REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT

PROJECT DESCRIPTION

Rock, composed of non-metallic minerals, is drilled/blasted, loaded into haul trucks, and transported to processing. Rock is processed through feeder(s), crusher(s), screen(s), conveyor(s), and bin(s). Processing equipment is powered with 1 diesel engine generator set. The emission points are listed in the attached spreadsheet summary. This installation is not on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2]. The installation is located in Vernon County, an attainment area for all criteria air pollutants.

The rock crushing plant is a generic plant. Ash Grove Aggregates requested the review to be done under the interim policy and utilize the best management practices to control fugitive emissions. In addition, Ash Grove Aggregates requested to operate this rock-crushing plant under two scenarios:

- A) Solitary operation limited to $130 \mu\text{g}/\text{m}^3$ of PM_{10} or less reserved for the stationary crushing plant
- B) Concurrent operation limited to $100 \mu\text{g}/\text{m}^3$ PM_{10} or less reserved for the stationary crushing plant and $30 \mu\text{g}/\text{m}^3$ of PM_{10} or less will be reserved for only one portable plant located at this site.

Only one portable plant (hot mix asphalt, concrete batch, or rock-crushing plant) is allowed to operate concurrently with this stationary rock-crushing plant at this site.

If any emissions-related violations occur on days both companies are operating concurrently, then both companies will be held responsible. Therefore, it is recommended that both companies communicate daily, and a daily communications log may be helpful in demonstrating compliance.

No Permits have been issued for This Facility

EMISSIONS EVALUATION

Criteria air pollutants will be emitted from this operation. The main air pollutant of concern is PM_{10} . The potential emissions were calculated from the maximum hourly design rate (MHDR) of the equipment, appropriate emission factors, control device efficiencies, and the limiting operating hours at MHDR. The sources of the emission factors and control efficiencies are listed in the section "Permit Documents". Based on the conditioned potential emissions, the operation is considered a minor source under 10 CSR 10-6.060 section (6).

If the conditioned potential emissions of PM_{10} were 50 tons per year or greater, then the owner would be required to submit dispersion modeling results.

Table 2: Emissions Summary (tons per year)

Air Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (year EIQ)	Potential Emissions of the Application	**New Installation Conditioned Potential	Emission Factor (lb/ton)
PM_{10}	15.0	N/A	N/A	101.09	40.69	N/A
SO_x	40.0	N/A	N/A	18.01	7.25	N/A
NO_x	40.0	N/A	N/A	142.67	57.43	N/A
VOC	40.0	N/A	N/A	3.65	1.47	N/A
CO	100.0	N/A	N/A	37.90	15.25	N/A
HAPs	10.0/25.0	N/A	N/A	0.03	0.03	N/A

Note: N/A = Not Applicable; N/D = Not Determined

** Conditioned potential based on daily production limit from ambient impact analysis. Other pollutants proportionately reduced.

AMBIENT AIR QUALITY IMPACT ANALYSIS

Screening tools were used to evaluate the ambient air impact of the hourly emissions from this operation. The ambient impact was evaluated at a distance of 300 feet to the nearest property boundary. The ambient impact at this site shall not exceed the National Ambient Air Quality Standard (NAAQS) of 150 $\mu\text{g}/\text{m}^3$ of PM_{10} at or beyond the nearest property boundary in any single 24-hour period. The screening tools were used to develop an ambient impact factor for the rock crushing plant. This ambient impact factor is incorporated into the daily record keeping table, Attachment A (single operation) and, Attachment B (multi operations).

For sources agreeing to use Best Management Practices (BMPs), as defined in Attachment AA, haul roads and stockpiles are not modeled with screening tools. Instead, they are addressed as a background level of 20 $\mu\text{g}/\text{m}^3$ of PM_{10} . To ensure conformity with NAAQS, the remaining process emissions are limited to an impact of less than 130 $\mu\text{g}/\text{m}^3$ of PM_{10} at or beyond the nearest property boundary.

Table 3: Ambient Air Quality Impact Analysis of PM_{10} , 24-Hour Averaging Time

Operation	Ambient Impact Factor ($\mu\text{g}/\text{m}^3/\text{ton}$)	Modeled Impact ($\mu\text{g}/\text{m}^3$)	*Background ($\mu\text{g}/\text{m}^3$)	NAAQS ($\mu\text{g}/\text{m}^3$)	** Daily Production Limit (tons)
1. Solitary	0.0224	130.0	20.00	150.00	5,796.57
2. Concurrent, Separate Owners	0.0231	99.8	50.00	150.00	4,325.85

* Background PM_{10} level of 20.00 $\mu\text{g}/\text{m}^3$ from haul roads and stockpiles and 30 $\mu\text{g}/\text{m}^3$ from one of the following portable plants: hot mix asphalt, concrete batch or rock-crushing.

** The operator(s) must balance production among concurrently operating plants, with the ambient impact factors for each, such that NAAQS is not exceeded. Other ambient impact factors are listed in Attachment A (single operation) and, Attachment B (multi operations).

The Ambient Air Quality Modeling was performed at a distance of 300 feet to the nearest property boundary to determine the ambient impact of Nitrogen Oxides (NO_x) from the operation of the engine generator at this site. Ambient impact modeling was performed using screen view the interface for EPA Screen 3 Model. The results of this modeling show the site is in compliance with the NAAQS annual concentration of NO_x .

Pollutant	Modeled Impact ($\mu\text{g}/\text{m}^3$)	NAAQS ($\mu\text{g}/\text{m}^3$)	Time Period)
NO_x	23.15	100.00	Annual

APPLICABLE REQUIREMENTS

The owner is subject to compliance with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements.

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
- *Operating Permits*, 10 CSR 10-6.065
- An Operating Permit application is required for this installation within 30 days of equipment startup.
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-3.090
- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400
- *Restriction of Emission of Sulfur Compounds*, 10 CSR 10-6.260
- 40 CFR Part 60 Subpart "OOO", *Standards of Performance for Nonmetallic Mineral Processing Plants*, of the New Source Performance Standards (NSPS)
- The National Emission Standards for Hazardous Air Pollutants (NESHAPs) and the currently promulgated Maximum Achievable Control Technology (MACT) regulations do not apply to the proposed equipment.

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

Samer AL-Shoukhi
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, designating Ash Grove Aggregates as the owner and operator of the installation.
- Environmental Protection Agency (EPA) AP-42, *Compilation of Air Pollutant Emission Factors; Volume I, Stationary Point and Area Sources, Fifth Edition*.
- Noyes Data Corp. book, Orlemann, et al. 1983, *Fugitive Dust Control*.
- EPA Factor Information Retrieval (FIRE) Version 6.21.
- Spreadsheet calculations of potential-to-emit and ambient impact.
- Kansas City Regional Office Site Survey.
- Best Management Practices

Attachment A: Daily Ambient PM₁₀ Impact Tracking Record
Ash Grove Aggregates, Inc. – Rich Hill - Seagraves Quarry, 217-0042– Generic Rock Crushing Plant
Single Operation

Project Number: 2005-11-042
County, CSTR: Vernon County (S35, T38N, R32W)
Primary Unit Size: 600 tph
Distance to Nearest Property Boundary: 300 feet

This sheet covers the period from _____ to _____ (Month, Day, Year) (Copy this sheet as needed.)

Date	Ash Grove Aggregates, Inc. – Rich Hill - Seagraves Quarry 217-0042 Project # 2005-11-042			Plant Name: Plant ID: Permit #:			Plant Name: Plant ID: Permit #:			Plant Name: Plant ID: Permit #:			² Back-ground PM ₁₀ Level (µg/m ³)	³ TOTAL PM ₁₀ Level (µg/m ³)
	Daily Production (tons)	Ambient Impact Factor (µg/m ³ /ton)	¹ Daily PM ₁₀ Impact (µg/m ³)	Daily Production (tons)	Ambient Impact Factor (µg/m ³ /ton)	¹ Daily PM ₁₀ Impact (µg/m ³)	Daily Production (tons)	Ambient Impact Factor (µg/m ³ /ton)	¹ Daily PM ₁₀ Impact (µg/m ³)	Daily Production (tons)	Ambient Impact Factor (µg/m ³ /ton)	¹ Daily PM ₁₀ Impact (µg/m ³)		
		0.0224		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0224		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0224		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0224		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0224		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0224		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0224		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0224		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0224		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0224		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0224		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0224		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0224		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0224		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0224		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0224		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0224		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0224		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0224		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0224		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0224		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0224		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	

Note 1: The Daily PM₁₀ Impact (µg/m³) for each plant is calculated by multiplying the Daily Production (tons) by the matching Ambient Impact Factor.
Note 2: The Background PM₁₀ Level of 20 µg/m³ is from Haul Roads and Stockpiles
Note 3: The TOTAL PM₁₀ Level (µg/m³) is calculated by summing the Daily PM₁₀ Ambient Impact(s) and the Background PM₁₀ Level. A TOTAL PM₁₀ Level of less than 150 µg/m³ in any 24-hour period indicates compliance.

Attachment B: Daily Ambient PM₁₀ Impact Tracking Record
Ash Grove Aggregates, Inc. – Rich Hill – Seagraves Quarry, 217-0042– Generic Rock Crushing Plant
Multi Operation

Project Number: 2005-11-042
 County, CSTR: Vernon County (S35, T38N, R32W)
 Primary Unit Size: 600 tph
 Distance to Nearest Property Boundary: 300 feet

This sheet covers the period from _____ to _____ (Month, Day, Year) (Copy this sheet as needed.)

Date	Ash Grove Aggregates, Inc. – Rich Hill - Seagraves Quarry 217-0042 Project # 2005-11-042			Plant Name: Plant ID: Permit #:			Plant Name: Plant ID: Permit #:			Plant Name: Plant ID: Permit #:			² Back-ground PM ₁₀ Level (µg/m ³)	³ TOTAL PM ₁₀ Level (µg/m ³)
	Daily Production (tons)	Ambient Impact Factor (µg/m ³ /ton)	¹ Daily PM ₁₀ Impact (µg/m ³)	Daily Production (tons)	Ambient Impact Factor (µg/m ³ /ton)	¹ Daily PM ₁₀ Impact (µg/m ³)	Daily Production (tons)	Ambient Impact Factor (µg/m ³ /ton)	¹ Daily PM ₁₀ Impact (µg/m ³)	Daily Production (tons)	Ambient Impact Factor (µg/m ³ /ton)	¹ Daily PM ₁₀ Impact (µg/m ³)		
		0.0231		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	50.0	
		0.0231		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	50.0	
		0.0231		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	50.0	
		0.0231		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	50.0	
		0.0231		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	50.0	
		0.0231		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	50.0	
		0.0231		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	50.0	
		0.0231		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	50.0	
		0.0231		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	50.0	
		0.0231		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	50.0	
		0.0231		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	50.0	
		0.0231		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	50.0	
		0.0231		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	50.0	
		0.0231		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	50.0	
		0.0231		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	50.0	
		0.0231		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	50.0	
		0.0231		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	50.0	
		0.0231		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	50.0	
		0.0231		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	50.0	
		0.0231		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	50.0	
		0.0231		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	50.0	

- Note 1: The Daily PM₁₀ Impact (µg/m³) for each plant is calculated by multiplying the Daily Production (tons) by the matching Ambient Impact Factor.
- Note 2: The Background PM₁₀ Level of 20 µg/m³ is from Haul Roads and Stockpiles. 30 µg/m³ is from one of the following portable plants: hot mix asphalt, concrete batch or rock crushing.
- Note 3: The TOTAL PM₁₀ Level (µg/m³) is calculated by summing the Daily PM₁₀ Ambient Impact(s) and the Background PM₁₀ Level. A TOTAL PM₁₀ Level of less than 150 µg/m³ in any 24-hour period indicates compliance

Attachment AA: Best Management Practices (BMPs)- Construction Industry Fugitive Emissions

Construction Industry Sites covered by the Interim Relief Policy shall maintain Best Management Control Practices (BMPs) for fugitive emission areas at their installations when in operation. Options for BMPs are at least one of the following:

For Haul Roads:

1. Pavement of Road Surfaces –
 - A. The operator(s) may pave all or any portion of the haul roads with materials such as asphalt, concrete, and/or other material(s) after receiving approval from the program. The pavement will be applied in accordance with industry standards for such pavement so as to achieve “Control of Fugitive Emissions¹” while the plant is operating.
 - B. Maintenance and/or repair of the road surface will be conducted as necessary to ensure that the physical integrity of the pavement is adequate to achieve control of fugitive emissions from these areas while the plant is operating.
 - C. The operator(s) shall periodically water, wash and/or otherwise clean all of the paved portions of the haul road(s) as necessary to achieve control of fugitive emissions from these areas while the plant is operating.
2. Usage of Chemical Dust Suppressants –
 - A. The operator(s) shall apply a chemical dust suppressant (such as magnesium chloride, calcium chloride, lignosulfonates, etc.) to all the unpaved portions of the haul roads. The suppressant will be applied in accordance with the manufacturer’s suggested application rate (if available) and re-applied as necessary to achieve control of fugitive emissions from these areas while the plant is operating.
 - B. The quantities of the chemical dust suppressant shall be applied, re-applied and/or maintained sufficient to achieve control of fugitive emissions from these areas while the plant is operating.
 - C. The operator(s) shall record the time, date and the amount of material applied for each application of the chemical dust suppressant agent on the above areas. The operator(s) shall keep these records with the plant for not less than five (5) years, and the operator(s) shall make these records available to Department of Natural Resources personnel upon request.
3. Usage of Documented Watering –
 - A. The operator(s) shall control the fugitive emissions from all the unpaved portions of the haul roads at the installation by consistently and correctly using the application of a water spray. Documented watering will be applied in accordance with a recommended application rate of 100 gallons per day per 1,000 square feet of unpaved/untreated surface area of haul roads as necessary to achieve control of fugitive emissions from these areas while the plant is operating. For example, the operator(s) shall calculate the total square feet of unpaved vehicle activity area requiring control on any particular day, divide that product by 1,000, and multiply the quotient by 100 gallons for that day.
 - B. The operator(s) shall maintain a log that documents daily water applications. This log shall include, but is not limited to, date and volumes (e.g., number of tanker applications and/or total gallons used) of water application. The log shall also record rationale for not applying water on day(s) the plant is in operation (e.g., meteorological situations, precipitation events, freezing, etc.)
 - C. Meteorological precipitation of any kind, (e.g. a quarter inch or more rainfall, sleet, snow, and/or freeze thaw conditions) which is sufficient in the amount or condition to achieve control of fugitive emissions from these areas while the plant is operating.
 - D. Watering may also be suspended when the ground is frozen, during periods of freezing conditions when watering would be inadvisable for traffic safety reasons, or when there will be no traffic on the roads. The operator(s) shall record a brief description of such events in the same log as the documented watering.
 - E. The operator(s) shall record the date and the amount of water applied for each application on the above areas. The operator(s) shall keep these records with the plant for not less than five (5) years, and the operator(s) shall make these records available to Department of Natural Resources personnel upon request.

¹ For purposes of this document, Control of Fugitive Emissions means to control particulate matter that is not collected by a capture system and visible emissions to the extent necessary to prevent violations of the air pollution law or regulation. (Note: control of visible emission is not the only factor to consider in protection of ambient air quality.)

For Vehicle Activity Areas around Open Storage Piles:

1. Pavement of Stockpile Vehicle Activity Surfaces –
 - A. The operator(s) may pave all or any portion of the vehicle activity areas around the storage piles with materials such as asphalt, concrete, and/or other material(s) after receiving approval from the program. The pavement will be applied in accordance with industry standards for such pavement so as to achieve control of fugitive emissions while the plant is operating.
 - B. Maintenance and/or repair of the road surface will be conducted as necessary to ensure that the physical integrity of the pavement is adequate to achieve control of fugitive emissions from these areas while the plant is operating.
 - C. The operator(s) shall periodically water, wash and/or otherwise clean all of the paved portions of the vehicle activity areas around the storage piles as necessary to achieve control of fugitive emissions from these areas while the plant is operating.
2. Usage of Chemical Dust Suppressants –
 - A. The operator(s) shall apply a chemical dust suppressant (such as magnesium chloride, calcium chloride, lignosulfonates, etc.) to all the vehicle activity areas around the open storage piles. The suppressant will be applied in accordance with the manufacturer's suggested application rate (if available) and re-applied as necessary to achieve control of fugitive emissions from these areas while the plant is operating.
 - B. The quantities of the chemical dust suppressant shall be applied, re-applied and/or maintained sufficient to achieve control of fugitive emissions from these areas while the plant is operating.
 - C. The operator(s) shall record the time, date and the amount of material applied for each application of the chemical dust suppressant agent on the above areas. The operator(s) shall keep these records with the plant for not less than five (5) years, and the operator(s) shall make these records available to Department of Natural Resources personnel upon request.
3. Usage of Documented Watering –
 - A. The operator(s) shall control the fugitive emissions from all the vehicle activity areas around the storage piles at the installation by consistently and correctly using the application of a water spray. Documented watering will be applied in accordance with a recommended application rate of 100 gallons per day per 1,000 square feet of unpaved/untreated surface area of vehicle activity areas around the storage piles as necessary to achieve control of fugitive emissions from these areas while the plant is operating. (Refer to example for documented watering of haul roads).
 - B. The operator(s) shall maintain a log that documents daily water applications. This log shall include, but is not limited to, date and volumes (e.g., number of tanker applications and/or total gallons used) of water application. The log shall also record rationale for not applying water on day(s) the plant is in operations (e.g., meteorological situations, precipitation events, freezing, etc.).
 - C. Meteorological precipitation of any kind, (e.g. a quarter inch or more rainfall, sleet, snow, and/or freeze thaw conditions) which is sufficient in the amount or condition to achieve control of fugitive emissions from these areas while the plant is operating.
 - D. Watering may also be suspended when the ground is frozen, during periods of freezing conditions when watering would be inadvisable for traffic safety reasons, or when there will be no traffic on the roads. The operator(s) shall record a brief description of such events in the same log as the documented watering.
 - E. The operator(s) shall record the date and the amount of water applied for each application on the above areas. The operator(s) shall keep these records with the plant for not less than five (5) years, and the operator(s) shall make these records available to Department of Natural Resources personnel upon request.